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REMARKS

This Amendment is filed in response to the Office Action mailed on July 13, 2005. All objections and rejections are respectfully traversed.

Claims 30-59 are in the case.

No claims were amended

No claims were added.

At Paragraph 1 of the Office Action correction of the Specification is required because it does not discuss a computer readable media and electromagnetic signals propagating on a computer network.

Applicant respectfully urges that writing files to a computer readable media is within the competency of a person of ordinary skill in the art in the field of the invention, that is, in the field of computer design and computer program design. That is, a person who can design the described and claimed invention knows how to write his files to a computer readable media. Further, a person of ordinary skill in the art of the invention also knows how to download software from the Internet, that is to use electromagnetic signals propagating on a computer network to transfer his files.

Accordingly, Applicant respectfully urges that a person of ordinary skill in the art of the invention will read and understand the claimed invention, and will not be required to do undue experimentation to write to a computer readable media, and to transfer his files as electromagnetic signals over the Internet.

Therefore, Applicant respectfully urges that the Specification, and the claims, meet all requirements of the statutes 35 U.S.C. and rules 37 C.F.R.

At Paragraphs 2-3 of the Office Action claims 45-49 were rejected under 35 U.S.C. 101 because the claim is an apparatus claim, and uses “means for” language.

Applicant respectfully urges that this particular form of apparatus claim is expressly authorized by 35 U.S.C. 112 paragraph 7 (the last paragraph), which states:

“An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.”

Applicant respectfully notes that each element of Claims 45-49 recite a “means or step for performing a specified function”, and therefore are not required to recite structure.

Accordingly, Applicant respectfully urges that the form of Claims 45-49 are expressly authorized by 35 U.S.C. 112 paragraph 7 (the last paragraph).

At paragraph 4 of the Office Action claims 55-59 were rejected under 35 U.S.C. § 101 on the grounds that data structures set out in these claims are not tangibly embodied.

The present invention, as set out in representative claim 55, comprises in part:

55. (Previously Presented) Electromagnetic signals propagating on a computer network, comprising:

instructions for execution on a processor for the practice of a method, said method having the steps,

receiving packets through one or more input ports and assigning the packets to X^*Y classes of service, where $*$ represents multiplication;

retaining packets based on probabilities of discard associated with the X^*Y classes of service in a multiple storage location buffer that links available storage locations to a free queue; and

transferring the packets through one or more output ports based on the X classes of service.

Applicant respectfully urges that the novel method steps are tangibly embodied in the electromagnetic signals propagating on the computer network. Further, Applicant respectfully urges that the embodiment of electromagnetic signals for transfer of *instruc-*

tions for execution on a processor for the practice of the method between computers fully satisfies all requirements of 35 U.S.C. § 101, and all requirements set out in the MPEP.

That is, Applicant respectfully urges that embodiment of the instructions in electromagnetic signals meets all of the requirements of 35 U.S.C. § 101, especially as clarified by MPEP 2106 IV, B, 1(c) at page 2106 of MPEP 8th Edition Incorporating Revision No. 2. (hereinafter MPEP 2106 IV, B, 1(c)). Further, MPEP 2106 IV, B, 1(c) states, at page 2106:

“However, a signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature, see *O'Reilly* 56 U.S. at 114-19; *In re Breslow*, 616 F. 2d 516, 519-21, 205 USPQ 221, 225-26 (CCPA 1980).”

In the case *In re Breslow* claims were permitted by the Court (CCPA) to chemical species which are transient in nature, and cannot be separated out of the mixture in which they are created. The MPEP cites this patentability of transitory phenomena in chemical reactions in support of the statement by the MPEP, “However, a signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature”.

The important point for patentability is the practical application of electromagnetic energy. And a practical application of electromagnetic energy is transmission of a computer program over a computer network, where the computer program is for the practice of a novel method. This practical application of electromagnetic energy is patentable subject matter, as explained by MPEP 2106 IV, B, 1(c).

A copy of *In re Breslow* from 205 USPQ 221 is attached to this Amendment, for the convenience of the Examiner.

Applicant respectfully urges that imbedding instructions for execution on a processor in an electromagnetic signal propagating on a computer network meets the practical application requirements of 35 U.S.C. § 101 and of MPEP 2106 IV, B, 1(c), and that claim 34 therefore claims statutory subject matter. Also, Applicant respectfully urges

that claims 51 and 53 claim statutory subject matter under 35 U.S.C. § 101 and MPEP 2106 IV, B, 1(c).

At Paragraph 5 of the Office Action Claims 50-54 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite on the grounds that in claim 50 lines 5 and 7, it is unclear what is meant by “Y”.

Applicant respectfully points out that the Specification Page 2 line 18 bridge to Page 3 line 5 describes the notation used in claims 50-54. Further, the notation is described in the Specification at Page 8 lines 21-26.

Applicant respectfully urges that the description in these two paragraphs is sufficiently clear that a person of ordinary skill in the art of the invention, that is in the art of computers, software development, and operation of routers, can understand the meaning set out in the claims. The meaning is especially made clear by reference to these two paragraphs cited hereinabove.

At Paragraph 6 of the Office Action, claims 30-44 were allowed.

All independent claims are believed to be in condition for allowance.

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All dependent claims are dependent from independent claims which are believed to be in condition for allowance. Accordingly, all dependent claims are believed to be in condition for allowance.

Favorable action is respectfully solicited.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,



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appellants' claims. *In re Green*, 2d 1185, 1189, 197 USPQ 227, 1978.⁹ Appellants claim broad nents, but the weight percent of the four examples of the claimed relatively minor amounts. For entire claimed range of carbon, but the tested range is only .02 5); the claimed cobalt range is est range is only 1.3. There is showing whether other alloys by appellants' broad claims elements varying by relatively s also exhibit a low creep rate.

B. Ductility Test

Table VI, set forth in their n, compares the room ductility of one heat of the (2-1426) and one heat of an which appellants state has within those of the references.

ts

Elong.	R.A.	N _v
(%)	(%)	Value
16.9	15.0	2.27
16.1	14.1	2.27
14.0	13.7	2.52
5.0	5.5	2.52

can be manufactured in a remain free from a tende-like sigma phase." The of the present invention he average number of elec at a value not exceeding whereas the Pauling theory w N_v value means reduced phase, appellants allege their composition and ments are free from sigma

earlier, the Boesch af sigma phase is present in

to decide whether 6-3211 is See *In re Malagari*, 499 F.2d USPQ 549, 552-53 (CCPA

seven alloy examples, all of which meet the composition requirements but exceed the N_v value requirement of the claimed alloys. However, this affidavit contains no examples of claimed alloys showing the absence, or presence, of sigma. The remainder of the record reveals only a single example of the claimed alloy, which shows the absence of sigma.¹⁰ Appellants' specification includes a photomicrograph of Table V alloy heat 2-1422, which clearly shows the absence of sigma; also, a photomicrograph of Table V alloy heat 6-3211, which shows the presence of sigma. We note again that the prior art teaches that reduction of the N_v value reduces the chances of sigma phase in the alloy. Here appellants tested only one example of a low N_v value alloy and found no sigma — a result consistent with both the prior art teaching and appellants' allegation that their claimed alloys are "totally free from sigma phase."¹¹ Under such circumstances, test results involving a single alloy within the broad range claimed are not sufficient to support appellants' allegation of what would, from the prior art, be unexpected.¹²

In view of the foregoing we hold that appellants have failed to rebut the prima facie case of obviousness.

The decision of the board is affirmed.
Affirmed.

¹⁰ Thus, appellants have again failed to show test data commensurate in scope with the broad claims.

¹¹ We agree with the board that the six United States patents ((1) No. 4,093,474, issued June 6, 1978; (2) No. 4,083,734, issued April 11, 1978; (3) No. 3,930,904, issued January 6, 1976; (4) No. 3,837,838, issued September 24, 1974; (5) No. 3,816,110, issued June 11, 1974; and (6) No. 3,767,385, issued October 23, 1973) introduced into the record by appellants "do support the assertion in the Boesch affidavit that 'any amount of sigma phase' is undesirable." Therefore, we have limited our analysis to the issue of the existence of sigma phase and have not extended it to include the effect of varying amounts of sigma phase.

¹² Where it is alleged that a certain technique for flipping coins would always produce "heads," one would hardly be persuaded by a single toss of a coin which resulted in a showing of "heads."

Court of Customs and Patent Appeals

In re Breslow

No. 79-602

Decided Feb. 28, 1980

PATENTS

1. Patent grant — In general (§50.01)
Patent grant — Nature of patent rights — In general (§50.201)

Government grants only right to exclude; there is no other agreement; analogy of a patent to a contract on theory that it is issued in exchange for invention's disclosure, "consideration," is inexact; patent is statutory right; it is granted to "Whoever" fulfills conditions, Section 101, unless fraud has been committed.

2. Court of Customs and Patent Appeals — Issues determined — Ex parte patent cases (§28.203)

Question of whether claimed compounds "are even formed" on which point Board of Appeals disagreed with examiner who argued that there was no indication nor proof on this point and board expressly held to contrary is not before Court of Customs and Patent Appeals.

3. Patentability — Subject matter for patent monopoly — In general (§51.601)

Ex parte Howard, 328 O.G. 251, 1924 C.D. 75, dealt with construction of "manufacture" rather than "composition of matter," with gob, of at least obvious, molten glass in transitory state rather than with novel chemical compounds, and with mechanical molding process in which it was well known to use molten gob of glass as distinguished from novel chemical process using entirely new and unobvious group of chemical compounds.

4. Patentability — New use or function — Composition of matter (§51.555)

Patentability — Subject matter for patent monopoly — In general (§51.601)

In re Stubbs, 13 USPQ 358, did not deal with issue of whether claimed compounds are excluded from category of "composition of matter" in Section 101 merely because they are transitory, unstable, and non-isolatable.

5. Patentability — New use or function — Composition of matter (§51.555)

Patentability — Subject matter for patent monopoly — In general (§51.601)**Patentability — Utility (§51.75)**

Requirement that compositions of matter be stable is not read into Section 101; many compounds may find their greatest or even their sole utility in fact that they are not stable.

6. Patentability — Utility (§51.75)**Specification — Sufficiency of disclosure (§62.7)**

Artisan need not literally be in possession of claimed compounds in sense of holding them for time in his hands in "reasonable stable" form; utility only for cross-linking and only when produced in situ is sufficient utility for patentability.

7. Applications for patent — In general (§15.1)**Patentability — New use or function — Composition of matter (§51.555)****Patentability — Subject matter for patent monopoly — In general (§51.601)****Pleading and practice in Patent Office — In general (§54.1)**

35 U.S.C. 114 authorizes Commissioner, if he so desires, to require models, specimens, and ingredients; argument that Congress, by authorizing Commissioner to require samples of composition, must have intended that composition of matter qualifying as patentable subject matter be something more than composition of matter that is unstable and incapable of being isolated is meritless; Section 114 was never intended to impose any limitations on scope of Section 101 and there is no reason why it should; Act of 1870 made submission of models and specimens discretionary with Commissioner, and rule that models were required by Patent Office was dispensed with in 1880.

8. Applications for patent — In general (§15.1)**Commissioner of Patents — In general (§21.01)****Patentability — New use or function — Composition of matter (§51.555)****Patentability — Subject matter for patent monopoly — In general (§51.601)****Pleading and practice in Patent Office — In general (§54.1)**

Section 114 is merely continuation of ancient authority vested in Commissioner to require model, specimen, or ingredient in rare case in which he sees fit to do so; authorization to request specimen in application for composition of matter bears same relation to such application as request for model does to application for patent on mechanical device; Patent Act of 1952 merely preserved authority in its then existing form for what it was worth; Congress intended broad construction of Section 101; claimed nitrile imines can as well be considered "manufactures" as "composition of matter."

Particular patents — Nitrile Imines

Breslow, Nitrile Imines, rejection of claims 2, 3, and 8 reversed.

Appeal from Patent and Trademark Office Board of Appeals.

Application for patent of David S. Breslow, Serial No. 646,309, filed Jan. 2, 1976, continuation of application Serial No. 453,664, filed Mar. 21, 1974, continuation in part of application, Serial No. 720,430, filed Feb. 2, 1968, division of application, Serial No. 447,887, filed Apr. 13, 1965, now U.S. Patent No. 3,418,285. From decision rejecting claims 2, 3, and 8, applicant appeals. Reversed; Baldwin, Judge, concurring with opinion.

Marion C. Staves, Kennett Square, Pa., for appellant.

Joseph F. Nakamura (Fred E. McKelvey and Gerald H. Bjorge, of counsel) for Commissioner of Patents and Trademarks.

Before Markey, Chief Judge, Rich, Baldwin, and Miller, Associate Judges, and Maletz,* Judge.

Rich, Judge.

This appeal is from the decision of the United States Patent and Trademark Office (PTO) Board of Appeals (board) affirming the rejections of claims 2, 3, and 8 in appellant's application, serial No. 646,309.¹

* The Honorable Herbert N. Maletz, Judge, United States Customs Court, sitting by designation.

¹ The present application is a continuation of serial No. 453,664, filed March 21, 1974, which was a continuation in-part of serial No. 720,430,

filed January 2, 1976, for "Nitrile Imines," under 35 USC 101 for failure to define a statutory class of invention and also under 35 USC 112, first paragraph, for not disclosing how to prepare and isolate the claimed compounds. We reverse.

The Invention

The new compounds claimed herein, polyfunctional nitrile imines, are one aspect of a broader invention which is described in U.S. Patent No. 3,418,285, which issued on a parent application, as follows: "This invention relates to new cross-linking agents, to cross-linking unsaturated polymers therewith, and to the crosslinked products so produced." The instant application explains that generally any type of unsaturated polymer, containing ethylenic unsaturation wherein there is at least one hydrogen radical attached to at least one of the carbon atoms of the double bond, can be cross-linked with the polyfunctional nitrile imines and that the resulting cross-linked polymers are hard, tough rubbers, substantially insoluble in water and hydrocarbon solvents with improved tensile properties useful in various rubber applications.

The following quotations from appellant's specification are particularly relevant to the issue before us:

The polyfunctional nitrile imines of this invention are relatively unstable compounds, and the primary modes of cross-linking unsaturated polymers with these imines involves their formation in situ in a polymer mass from their closely related but more stable hydrogen chloride salts * * * usually accomplished by contacting the hydrazide chloride with an alkaline material. * * *

* * *

The cross-linking is carried out by contacting the unsaturated polymer and a minor amount of the polyfunctional nitrile imine cross-linking agent for a time sufficient for the desired degree of cross-linking to occur. This uniform contacting is preferably achieved by uniformly mixing the polymer and the hydrogen chloride salt of the polyfunctional nitrile imine, and treating that mixture with an alkaline material, thereby generating the nitrile imine in situ in the polymer mass.

The uniform mixing * * * can be carried out by milling these ingredients on a conventional rubber mill, by dissolving the hydrogen chloride salt or the tetrazole precursor in a solvent solution of the polymer, or by any of other numerous methods, which will be readily apparent to those skilled in the art. This uniform contacting will result in the nitrile imine cross-linking agent being uniformly distributed throughout the polymer mass upon its in situ generation, so that uniform cross-linking can be achieved.

Thus, the claimed compounds are simultaneously generated and put to use. The three product claims on appeal are in Markush form, covering a large number of nitrile imines, the novelty, utility, and unobviousness of which have not been questioned. In view of the nature of the rejections, it will not be necessary to consider the claims in detail and quoting them would serve no useful purpose.

The Rejection

[1] The examiner relied on no prior art references. He held, first, that the claimed compounds do not fall within any statutory category of invention named in 35 USC 101.¹ For support, he relied on three admissions which appeared in the file of the parent application (serial No. 453,664), as follows: (1) "It is true that the compounds are transitory intermediates"; (2) "they are so reactive that they will react with each other if there is no other coreactant available"; and (3) "it is also true that applicant has not isolated the compounds." On the basis of these admissions, the examiner said in his Answer:

A "transitory intermediate" is not a composition of matter provided for under the normal interpretation of this statute.

* * *

* * * as noted above (and below) this is a situation where a "transitory" intermediate, which would not and could not be readily isolated, is being claimed and one of ordinary skill in the art is not

¹ §102. *Inventions patentable*

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

filed February 2, 1968, which in turn is a division of serial No. 447,887, filed April 13, 1965, now U.S. Patent No. 3,418,285. Effective filing date is not an issue.

presented with an enabling disclosure (for more on "enablement" see below) for attaining this compounds, [sic] per se, claimed at bar.

Decisions: While no direct precedential decisions have been found that are specifically in point on this 35 U.S.C. 101 issue the following decisions might be of interest: *Ex parte Howard*, 1924 C.D. 75 (item No. 1 on page 76) and *In re Stubbs*, 1932 C.D. 466 (item No. 1 on page 467).

The examiner then made a second rejection of the appealed claims under 35 USC 112, first paragraph, saying:

The first paragraph is pertinent as this disclosure provides no "enabling" data to teach one of ordinary skill in the art how to prepare and isolate the compounds, per se, presently being claimed. Derivatives yes, but actual isolatable compounds, no.

Put another way, it is clear that as appellant is claiming specific compounds it is appellant's duty (to fulfill the patent contract granted by the government of the United States)¹ to give sufficient teachings to enable one of ordinary skill in the art to produce (or reproduce) and isolate such claimed compounds, per se, not derivatives thereof. As urged by the Examiner, supra, appellant has not done so. If it would be obvious to the ordinary skill in the art how to isolate such claimed compounds then no problem exists as such would be patentable * * * but herein no such enablement is proffered nor is (are) any reference(s) cited to prove such isolation would be within the ordinary skill of the art. [Emphasis ours.]

[2] Another argument made by the examiner was that there was no indication, and certainly no proof, that the claimed compounds "are even formed." The board disagreed with him on this point and expressly held to the contrary, so that question is not before us. The board held that, on the evidence produced by appellant, it is "reasonable to assume that the claimed compounds, in fact, are formed and do exist

in the system disclosed by appellant in which they are specifically and explicitly taught to be produced." Having so held, the board's opinion continues as follows:

But we are, nevertheless, constrained to affirm the Examiner's rejection of the instant claims. An interesting legal question is presented by this case for which, as noted by the Examiner, no direct precedential decisions appear to exist. However, similar factual situations prevailed in *Ex parte Howard*, 1924 CD 75, wherein a free-falling drop or gob of molten glass which exists only while falling to the mold was claimed, and in *In re Stubbs*, 58 F.2d 447, 423 OG 6, 1932 CD 466, where the subject matter at issue was a paving for streets comprised of a party-cured concrete. In both of these cases the deciding tribunals [in Howard, Assistant Commissioner of Patents Fenning and in Stubbs this court] held that the claimed products did not fall within one of the statutory classes which may be patented inasmuch as they were transitory and ephemeral in nature. Similarly here, the claimed compounds are transitory intermediates which appellant has not been able to isolate and which apparently are not capable of existence, as such, in isolated form. See Paper No. 5, page 3 of the parent file, Serial No. 453,664, pertinent portions of which have been reproduced by the Examiner in his Answer. Accordingly, we believe that the claimed compounds which admittedly exist only as transitory intermediates are not within the scope of the four categories of inventions or discoveries set forth in 35 USC 101 which may be patented.

Further, we interpret the enablement clause of the first paragraph of 35 USC 112 as requiring that the claimed invention, i.e. the claimed compounds per se which constitute the invention at issue, must be taught in a manner such that the artisan will be in possession of the claimed invention. Appellant, however, does not disclose how this may be achieved nor, in fact, does he even assert that such may necessarily be possible. He only postulates that using very sophisticated techniques someone may one day possibly isolate and analyze the instant compounds. It is urged by him that investigations of this nature are unnecessary for the purpose of this invention.

We disagree. The invention at bar, as defined by the appealed claims, is the compounds, per se, and as long as appellant has failed to give directions to

¹ The examiner's notion about the United States granting a contract is inapt. The Government grants only a right to exclude. There is no other agreement. While a patent has often been likened to a contract on the theory that it is issued in exchange for the disclosure of the invention (the "consideration"), the analogy is inexact. A patent is a statutory right. It is granted to "Whoever" fulfills the conditions, §101, note 2 supra, unless fraud has been committed.

one skilled in the art who into possession of the in ed, he has not satisfied clause of 35 USC 112. that we believe appellat art-skilled how to isol compounds in pure fo believe that appellant m obtain the compounds stable form. [Emphasis :

The Issue

From the foregoing it is board affirmed two distinction: (1) lack of statutory under §101 and (2) lack of closure in the specification matter has here been I however, by the PTO soli this court. At the end of

It is the Commission §112 rejection stands §101 rejection. If th isolatable, transitor claimed in claims 2, 3, by the Court to be "matter" within the me appellant has at least t. the unstable, non-iso compounds in situ. I what more would be i circumstances. The course, believes the r prevail on the basis of

Thus, the two issues h reduced to one: Are pounds, which the boar fact do exist and can be j to the description of ap tion, excluded from the position of matter" in §1 transitory, unstable, an what the board called "form"? Stated another v a new and useful compo made at will for its inte as a cross-linking agen sidered as a "compositio §101?

Opini

The examiner and th and the solicitor appe the question raised by first impression and th law.

The PTO brief is de excluding appellant's §101: It merely says.th ed. because they are uni

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one skilled in the art which would put him into possession of the invention so claimed, he has not satisfied the enablement clause of 35 USC 112. This is not to say that we believe appellant must teach the art-skilled how to isolate the claimed compounds in *pure* form; but we do believe that appellant must enable one to obtain the compounds in a reasonably *stable* form. [Emphasis in original.]

The Issue

From the foregoing it is apparent that the board affirmed two distinct grounds of rejection: (1) lack of statutory subject matter under §101 and (2) lack of an enabling disclosure in the specification under §112. The matter has here been further simplified, however, by the PTO solicitor in his brief in this court. At the end of his brief he says:

It is the Commissioner's view that the §112 rejection stands or falls with the §101 rejection. If the unstable, non-isolatable, transitory intermediates claimed in claims 2, 3, and 8 are deemed by the Court to be a "composition of matter" within the meaning of §101, then appellant has at least taught how to make the unstable, non-isolatable, transitory compounds *in situ*. It is not apparent what more would be required under the circumstances. The Commissioner, of course, believes the ruling below should prevail on the basis of the §101 rejection.

Thus, the two issues have effectively been reduced to one: Are the claimed compounds, which the board has admitted in fact do exist and can be produced according to the description of appellant's specification, excluded from the category of "composition of matter" in §101 because they are transitory, unstable, and non-isolatable in what the board called "a reasonably *stable* form"? Stated another way, how long must a new and useful compound, which can be made at will for its intended purpose, here as a cross-linking agent, exist to be considered as a "composition of matter" under §101?

Opinion

The examiner and the board recognized, and the solicitor appears to concede, that the question raised by this appeal is one of first impression and that it is a question of law.

The PTO brief is devoid of any *reason* for excluding appellant's compounds from §101. It merely says they should be excluded *because* they are unstable and cannot be

isolated, but that simply begs the question. It is said that denying appellant the appealed claims would not *undermine* in any way the public policy behind the patent system. But neither would it support it.

Although the PTO clearly felt, as we feel, that there is no prior decision on facts the same as those here, we will briefly discuss the two cases which were cited and apparently relied on below. The board said of them:

In both of these cases the deciding tribunals held that the claimed products did not fall within one of the statutory classes which may be patented inasmuch as they were transitory and ephemeral in nature.

Ex parte Howard, 328 O.G. 251, 1924 C.D. 75 (Ass't. Comm'r. 1922), was decided in the days when a decision of the board of Examiners-in-Chief (now the Board of Appeals) could be appealed to the Commissioner of Patents in person under §47 of the Patent Act of 1870, R.S. 4910 (repealed by §6 of Pub. L. 690, 69th Cong., Mar. 2, 1927, 44 Stat. 1326). It was also then settled that the decision of such appeals to the Commissioner in person could be delegated to the Assistant Commissioner. Hence, we had in this case a decision by Assistant Commissioner Fenning. The first part of his opinion dealt with a claim rejected on prior art and has no bearing here. The second part dealt with a refusal by the Examiners-in-Chief to admit a new claim directed to "a freely-falling drop or gob of glass" of specified characteristics which was created in the course of a process of glass molding, the molten gob falling into the mold to be shaped into an article before it cools. The issue presented was whether the gob was a "manufacture" under R.S. 4886, predecessor statute to §101. Assistant Commissioner Fenning held the claimed hot gob was not a "manufacture" for the following reasons:

I am of the opinion that it is the finished product that the patent statutes are designed to protect as "manufactures" and not something which is produced at a particular stage of the manufacturing process and which is evanescent and adapted for use only in so far as it may enter into and be modified by subsequent steps of a method for producing a complete article.

* * *

* * * the drop of glass claimed is in its temporary condition while being transformed into something else. The

"manufacture" is not yet made, the process of manufacturing is still incomplete.

That is one man's opinion on the application of the statutory term "manufacture" to one set of facts. However, the Commissioner had another reason for refusing to admit the new claim. He noted that the principal difference between the applicant's gob and those disclosed by the prior art lay only in its shape, "the idea being to shape the charge to fit the mold." And that difference, he said, was "merely one of degree." He also took note of a photograph filed with the brief which, he said, seemed to show that applicant's gob was of an old shape and not that of the claim, wherefore "applicant's argument is from theory and not from practice."

[3] *Ex parte Howard* is distinguishable, therefore, on the grounds that it dealt with the construction of "manufacture" rather than "composition of matter," with a gob of apparently old, or at least obvious, molten glass in a transitory state rather than with novel chemical compounds, and with a mechanical molding process in which it was well known to use a molten gob of glass as distinguished from a novel chemical process using an entirely new and unobvious group of chemical compounds. While certain analogies can be drawn from the reasoning used, we do not regard the Assistant Commissioner's reasoning as persuasive on the facts before us.

[4] In re Stubbs, 19 CCPA 1216, 58 F.2d 447, 13 USPQ 358 (1932), involved a process for making concrete paving. The affirmance of the rejection of four claims was appealed to this court. All were rejected on prior art. The rejection of two process claims was reversed by this court. The other two claims were directed to paving and are typified by claim 1 reading:

1. Paving for streets, roads, and the like comprising a slab of cut-surface *partly cured concrete*, a coating of bituminous material laid on said cut surface and partly embedded therein, and a coating of sand adhering to the bituminous material. [Emphasis ours.]

The examiner had rejected claims 1 and 2 because they relied on a method step. The board disagreed with the examiner on that ground but held those claims were "primarily improper because as drawn they appear to claim a product in its transitory stage instead of in its final form. The finished product includes concrete which is completely cured and not partly cured." The

product, of course was paving. This court, in a single paragraph reiterating the facts, completely agreed with the board, citing no statute or other authority or any other reason in addition to what the board was quoted as saying. Apparently the court felt that a claim to *paving*, to accurately describe the invention, should not refer to *uncured* concrete because the finished product does not contain it. But even that is surmise. The significant fact here is that this court made no reference whatever to the predecessor statute of §101, nor to any statute or precedent. Nor did it even refer to the question of what subject matter may be patented. Stubbs is totally lacking in precedential value. It simply did not deal with the issue now before us.

Wholly unlike the product claim in Stubbs, which attempted to claim paving consisting of a combination of elements, the claims here are not directed to combinations but to new chemical compounds. In essence, the objection of the PTO is that the compounds, being unstable, cannot be isolated and lays down as a prerequisite to being "statutory subject matter" that "appellant must enable one to obtain the compounds in a reasonably *stable* form." That is to say, unstable compounds are not "compositions of matter" under §101, at least when they are sufficiently unstable, notwithstanding it can be determined that they in fact do exist, that they are useful cross-linking agents, and that they can be produced at will, following appellant's specification, and used for their intended purpose.

[5] It appears to us that the PTO would read into §101 a requirement that compositions of matter must be stable — which is a relative term to say the least. We see no good reason to do so. It would appear that many compounds may find their greatest or even their sole utility in the fact that they are not stable. Certainly, in the invention at bar there is no reason to have the claimed compounds in a stable form so they can be bottled or tanked or otherwise stored. The preferred manner of using them is to produce them in situ, whereupon they exhibit their cross-linking activity, their only disclosed utility.

[6] In discussing the §112 aspect of the rejection, which the solicitor has so helpfully eliminated from consideration, the board expressed concern about putting the artisan in possession of the claimed invention, and rightly so. But it seems to us that the board concentrated unduly on the word "claimed" and was too literal about the need for the artisan to be in possession of the claimed com-

pounds in the same time in his laboratory. Assuming compounds are and only when would be sufficient — those skilled in the possession of the just as complete possession of a process and now patented.

[7] The solid presents a new examiner or board be construed pounds incapable contention is authorized the desires, to requiring ingredients, court says:

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pounds in the sense of holding them for a time in his hands in a "reasonable stable" form. Assuming, arguendo, that the claimed compounds are useful only for cross-linking and only when produced *in situ* — which would be sufficient utility for patentability — those skilled in the art *have* been put in possession of them by appellant's disclosure just as completely as they have been put in possession of appellant's invention in its process and cross-linked product aspects, now patented.

[7] The solicitor's brief in this court presents a new argument, not made by the examiner or board, as to why §101 should be construed to exclude unstable compounds incapable of being isolated. The contention is that 35 USC 114, which authorizes the Commissioner, if he so desires, to require models, specimens, and ingredients, compels that conclusion. He says:

It is readily apparent that by authorizing the Commissioner to require samples of a composition of matter, Congress must have intended that a composition of matter qualifying as patentable subject matter be something more than a composition of matter which is unstable and incapable of being isolated.

We see no merit in that argument. Considering the origins and history of §114, we do not believe that it was ever intended to impose any limitations on the scope of §101 or that there is any reason why it should. For the origins of §114 one must hark back to §3 of the Patent Act of 1793 which included as part of the patent application "drawings and written references, where the nature of the case admits of drawings, or * * * specimens of the ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention is of a composition of matter; * * *." Section 6 of the 1836 Act added: "and he shall moreover furnish a model of his invention, in all cases which admit of a representation by a model, of a convenient size to exhibit advantageously its several parts." That was before anything like modern chemistry had evolved in a time when the Patent Office was largely a museum of technology. Model and specimen storage and exhibition became an aggravated problem for the Office and in 1870 Commissioner Fisher's recommendation to dispense with all models except when absolutely necessary was written into the law by making the submission of models and specimens discretionary with the Com-

missioner. Act of 1870, §§28, 29, R.S.4890, 4891 (1874). See Outline History of the Patent Office, 18 JPOS 116, 138, 168, 175 (July 1936). Although models were required by Patent Office rule for a few more years, that rule was finally dispensed with in 1880. *Id.* at 137.

[8] Section 114⁴ of the present statute is merely a continuation of the ancient authority vested in the Commissioner to require a model, specimen, or ingredient in the rare case in which he sees fit to do so. This authority is almost never used, E. Stringham, Patent Soliciting and Examining §§1, 54 (1934), and this has been so for a very long time. The authorization to request a specimen in an application for a composition of matter bears the same relation to such an application as a request for a model does to an application for a patent on a mechanical device. A. McCrady, Patent Office Practice §105 (4th ed. 1959). The Patent Act of 1952 merely preserved the authority in its then existing form for what it was worth. The solicitor has cited nothing to indicate that anyone has ever at any time regarded §114 as having any bearing on the construction of §101. It will be noted that Congress in the House report No. 1923, 82nd Cong., 2d Sess., on H.R. 7794, the bill which became the 1952 Patent Act, under the heading "General Description of Bill," found §114 of so little interest that it was not even mentioned. (See p. 7 of the report.) The Senate report is identical in this respect. On the other hand, those same reports clearly indicate that a broad construction of §101 was intended by Congress. Surely, appellant has made his nitrile imines, used them, and taught others how to do so. They can as well be considered "manufactures" as "composition of matter."

Having considered the case of first impression which this appeal presents and the arguments pro and con, we find the rejection of claims 2, 3, and 8 to be without support in law and the decision of the board is reversed.

Reversed.

** §114. Models, specimens*

The Commissioner may require the applicant to furnish a model of convenient size to exhibit advantageously the several parts of his invention.

When the invention relates to a composition of matter, the Commissioner may require the applicant to furnish specimens or ingredients for the purpose of inspection or experiment.

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